

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of tracing signalling messages of a subscriber in a mobile communication system which comprises functional entities for subscriber mobility management, the method comprising

transmitting and receiving signalling messages in a functional entity, ~~characterized by~~ receiving a trace command (3-1) in said functional entity, the command indicating the tracer and identifying at least one subscriber whose signalling messages are to be traced,

starting tracing which comprises the steps of:

copying a signalling message in response to the reception or transmission-(405) of a signalling message related to the subscriber to be traced, and

sending a copy to the tracer-(460, 3-2').

2. (Currently Amended) A method according to claim 1, ~~characterized in that wherein~~

the trace command also indicates the type of the signalling message to be traced, and the signalling message is copied only if it is of the type-(404) to be traced.

3. (Currently Amended) A method according to claim 1, ~~characterized in that wherein~~ tracing starts from the start message (401) of a dialogue related to the subscriber to be traced.

4. (Currently Amended) A method according to claim 3, ~~characterized in that wherein~~ tracing of the subscriber's signalling message stops in response to the fact that the dialogue which started tracing ends.

5. (Currently Amended) A method according to claim 1, ~~characterized by further comprising:~~

receiving a stop command (3-3) of tracing in the entity, the command indicating the subscriber whose signalling message tracing is to be stopped, and

stopping tracing of the signalling messages related to said subscriber.

6. (Currently Amended) A method according to claim 1, ~~characterized in that~~ wherein the signalling messages of the MAP protocol are traced.

7. (Currently Amended) A mobile communication system comprising subscribers (~~MS~~), at least some of the subscribers being able to roam within the coverage area of the system,

one or more network elements (~~MSC, VLR, HLR~~) in which signalling messages are received and transmitted to manage subscriber mobility,

operating means (~~OMC~~) for giving instructions to the network element, wherein ~~characterized in that~~

the operating means (~~OMC~~) are arranged to give a trace command to the network element (~~MSC, VLR, HLR~~), the command indicating the tracer and identifying at least one subscriber (~~MS~~) whose signalling messages are to be traced,

the network element (~~MSC, VLR, HLR~~) is arranged to copy signalling messages related to the subscriber (~~MS~~) in response to the trace command and to send a copy to the tracer.

8. (Currently Amended) A system according to claim 7, ~~characterized in that~~ wherein

the trace command also indicates the type of the signalling message to be traced, and

the network element (~~MSC, VLR, HLR~~) is arranged to copy the signalling message related to the subscriber to be traced if it is of the type to be traced.

9. (Currently Amended) A system according to claim 7, ~~characterized in that~~ wherein

the signalling messages to be traced are messages of the MAP protocol, and

the network element (~~MSC, VLR, HLR~~) is arranged to start copying of the signalling messages related to the subscriber in response to the dialogue of the MAP protocol which starts after the trace command and is related to the subscriber to be traced.

10. (Currently Amended) A network element-~~(NE)~~ of a mobile communication system which receives and transmits signalling messages to manage subscriber mobility,

~~characterized in that~~ the network element ~~comprises comprising~~

reception means-~~(OMU)~~ for receiving a trace command, which indicates the tracer and identifies at least one subscriber whose signalling messages are to be traced,

separation means-~~(ME)~~ for separating the signalling messages of the subscriber to be traced from other signalling messages,

copying means-~~(ME)~~ for copying the signalling messages related to the subscriber to be traced, and

transmission means-~~(ME, OMU)~~ for sending copies to the tracer.

C/ 11. (Currently Amended) A network element according to claim 10,

~~characterized in that~~wherein

the trace command also indicates the type of the dialogue to be traced, and

the separation means-~~(ME)~~ are arranged to separate the signalling messages that belong to the dialogue of the type to be traced from the signalling messages of the subscriber to be traced.

12. (Currently Amended) A network element according to claim 10,

~~characterized in that the network element (NE) comprises further comprising an~~

MAP entity-~~(ME)~~ which is responsive to the reception means and comprises separation, copying and transmission means.

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